The OAS Newsletter

A supplement to *The Ohio Journal of Science* (December 1991) for the members of the Ohio Academy of Science

Inside ...

Events Calendar...

The following lectures will be held at The Cleveland Museum of Natural History:

"Red Bay, Labrador: Remnants of a 16th-Century Seaport"
Dr. James Tuck
Friday, January 24, 1992

"The Life and Work of Beatrix Potter"
Speaker to be Announced
February 1992

"Sacred Mountains of the World"
Dr. Edwin Bernbaum
Friday, March 13, 1992

"Captain Harston Bodfish and theWestern Arctic Whaling Industry"
Dr. John R. Bockstoce
Friday, April 24, 1992

All lectures begin at 8 P.M. in Murch Auditorium. For more information call (216) 231-4600.

Online Journal to Be Introduced for Clinical Trials of Medical Treatments

Physicians will have faster access to results of research on new and re-examined medical treatments, reported in a new electronic journal that will publish findings as soon as they have been reviewed by medical experts.

Slated to launch in April 1992, *The Online Journal of Current Clinical Trials* "will be the first journal to make immediately available findings that could save or extend the lives of critically ill patients," said Edward J. Huth, M.D., who was named the journal's editor.

Huth, the former editor of the *Annals of Internal Medicine*, added that *Current Clinical Trials* was designed "precisely because patients could benefit if research findings were made available sooner."

The first of its kind, *Current Clinical Trials* is a joint venture of the Washington, DC-based American Association for the Advancement of Science, the world's largest general science organization, and the Dublin, Ohio-based OCLC Online Computer Library Center, a nonprofit corporation whose computer network links 13,000 libraries in 46 countries.

Richard S. Nicholson, AAAS executive officer and the journal's publisher, said that the journal "will combine the rigorous standards of the most prestigious research journals with the immediacy of online technology, making it the first scientific electronic journal to do so."

Nicholson noted that the submission process and research contents for the electronic journal would be completely separate from those of the weekly journal *Science*, for which he also serves as publisher.

According to K. Wayne Smith, president and chief executive officer of OCLC, *Current Clinical Trials* is the first electronic journal to accommodate sophisticated charts and graphics as well as typeset-quality text. "We've developed an electronic journal layout that is easy to use and visually pleasing to read," he said.

"Unlike scientific bulletin boards and databases," said Huth, "*Current Clinical Trials* will publish only findings that have passed the process known as peer review, in which research articles are screened by scientists before they are published."

The new electronic journal also will "eliminate the weeks and even months of delay that occur in print journals between the time that peer review is completed and actual publication" of research articles, Huth said. *Current Clinical Trials* will publish new studies within 24 hours of their peer-reviewed acceptance, providing the latest findings directly to its subscribers as often

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Ohio Schools and Teachers Receive Governor's Awards for Excellence

Nearly 100 Ohio schools and teachers were selected by The Ohio Academy of Science to receive the Governor's Awards for Excellence in Youth Science Opportunities for their accomplishments during the 1990-91 school year.

Special Governor's Awards certificates will be issued by The Ohio Department of Education.

The program was initiated by The Ohio Academy of Science in cooperation with The Office of The Governor and the Ohio Department of Education to recognize schools and teachers who stimulate student scientific research and who extend science education opportunities beyond the traditional classroom activities.

To qualify for the Governor's Awards, each school conducted a local science fair with 25 or more students, sent one or more of these students to one of the Academy's 15 district science days, and involved students in one or more youth science opportunities beyond the classroom such as State Science Day, visits to museums, mentorship programs and extended field trips.

This program continues a strong partnership in education programming between a private organization like the Academy and State government, according to the Academy.

Now in its Centennial Year, The Ohio Academy of Science empowers curiosity, innovation and discovery by stimulating interest in the sciences and technology, promoting and supporting research, improving science education, disseminating scientific knowledge, and recognizing and publicizing high achievement in attaining these objectives.

New High Speed Network Opens Doors For Ohio Researchers

The Ohio Supercomputer Center announced that it has made high-speed upgrades to its statewide data network, making Ohio home of one of the fastest data networks in the world and giving Ohio researchers improved reseach capabilities.

The network, called the Ohio Academic Resources Network (OARnet) provides electronic links between 28 Ohio colleges and universities, NASA Lewis, Wright-Patterson Air Force Base and several Ohio industries. Alison Brown, associate director of the Center, said OARnet's new network bandwidth is now comparable to leading regional networks like the Big Ten network (CICnet) and the National Science Foundation network (NSFnet). OARnet connects nine Ohio universities at the new high speeds. In contrast, the Big Ten network spans the entire Midwest but only uses the high data rates at eleven universities.The network's data transmission rate was increased from 56 kilobits per second to 1.5 megabits per second, a speed-up of 24 times. The new high speed transmission facility connects Cleveland, Akron, Columbus, Cincinnati and the Toledo/Bowling Green area.

OARnet is breaking new ground in the world of networks by providing high-speed data transfer to mid-sized colleges and universities as well as large universities. The universities of Toledo, Cincinnati, Kent State, Cleveland State, Akron, Ohio

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Online Journal

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as several times each week.

Clinical trial results from medical researchers worldwide are being solicited for the new journal, which will be available to subscribers in April 1992. The $110 annual subscription, priced competitively with print journals, includes unlimited online access to research findings.

Subscribers will be able to access the journal with an IBM or compatible personal computer equipped with Windows 3.0 software, a modem and two megabytes of RAM. The journal's new technology offers typeset-quality text and graphics visible on the computer screen, including tables, graphs and mathematical symbols.

OCLC developed the technology and programming for the new journal; its editorial content and focus were developed by AAAS.

For more information about subscriptions or research contributions to The Online Journal of Current Clinical Trials, contact: Patricia A. Morgan, Director of Publications, AAAS, 1333 H St. NW, Washington DC, 20005.

Editor: Lee A. Meserve

Assistant Editors:
Katherine MacDonald
Ardella Pierce

Design and Layout:
Katherine MacDonald

Contributions:
Send to:
Lee A. Meserve
Dept. of Biological Sciences
Bowling Green State Univ.
Bowling Green, OH 43403

The OAS Newsletter appears as a supplement to The Ohio Journal of Science biannually (June and December).

Students Selected as Ohio's Space Scientists of Tomorrow

Fifty outstanding Ohio high school students were named as Ohio's Space Scientists of Tomorrow by The State of Ohio, TRW Inc., NASA Lewis Research Center, and The Ohio Academy of Science.

The students, selected by The Ohio Academy of Science for their performance in science, mathematics, and for their communication skills, received an all-expense-paid educational trip to Kennedy Space Center, Merritt Island National Wildlife Refuge and EPCOT in Florida this past June.

The program is designed to reward outstanding 9th, 10th, and 11th graders for their school work, and for participation and leadership in extracurricular youth science activities. It encourages them to consider careers in science and engineering. The Academy based its selection of the students on standardized test scores, class rank, grade point average, participation in student activities, participation in science and mathematics related activities and on writing ability.

The students include 27 females and 23 males from 29 counties across Ohio. They were selected from 556 nominees submitted by 351 schools in 78 counties.

"Education is critical to the future of our state," Ohio Governor George V. Voinovich said. "Programs like Ohio's Space Scientists of Tomorrow are creative methods for encouraging and heightening interest in science, math, engineering and similar fields of study. I applaud TRW, NASA Lewis and The Ohio Academy of Science for working cooperatively with the state to help Ohio students and Ohio's future."

"We believe that it is necessary

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Buckeye Women in Science, Engineering & Research Camp

At the invitation of The Ohio Academy of Science, nearly 90 young women from 72 schools in 40 of Ohio's 88 counties went to The College of Wooster to attend B-WISER—The Buckeye Women in Science, Engineering and Research Camp. The science camp is designed to develop self-confidence, to nurture interests, and heighten career expectations and aspirations of young women (7th graders) in science, engineering and research, through hands-on activities and through the use of role models from education and industry.

The camp director is Elizabeth Obara, a science teacher at Dublin High School, who is assisted by Dr. Lois A. Cook, Emeritus Professor of Chemistry at Wright State University.

One of the highlights of the camp was a visit by 15 exemplary women in science from industry, government and higher education including BP America, SofTec Inc., Ross Laboratories, Ferro Corporation, Capital University, United Telephone Company of Ohio, NASA Lewis Research Center, the College of Mount St. Joseph, BF Goodrich and Denison University.

In addition to fees paid by campers, funds for the camp were provided by Ashland Chemical, BF Goodrich Company, BP America, Dr. Lois A. Cook and Aaron S. Cook, The Dublin Kiwanis Club and several other Kiwanis Clubs, Dayton Advocates for Computing Women, Electronic Image System Inc., Ferro Corporation, Janson Industries, NCR Foundation and United Telephone Company of Ohio.

Stuckey Initiates Endowment Fund For Herbarium

Ronald L. Stuckey, Professor of Botany at The Ohio State University, presented a gift of $30,000 to the University's Foundation to initiate an endowment for the support of the University Herbarium. The presentation was made as a final surprise announcement at Professor Stuckey's retirement party celebrating twenty-six years of teaching at the University. The event, held at the University Ramada Hotel, Olentangy River Road, Columbus, was attended by 130 colleagues, former students, relatives and close friends. They came from the central Ohio area, elsewhere in the state and eight other states.

Designated as the Ronald L. Stuckey Herbarium Fund, the gift was accepted by Drs. Tod F. Stuessy, Director of the University Herbarium; Ralph E. J. Boerner, Chairperson of the Plant Biology Department; and Gary L. Floyd, Dean of the College of Biological Sciences. Anne K.P. Kochman, College representative to the University Foundation and Development Fund, accepted for the Foundation by reading a letter from its Executive Director, Donald D. Glower.

Dr. Stuessy stated that the endowment was a "wonderful gift" that will aid in the studies of the flora of Ohio, which are of particular concern to Dr. Stuckey. Director Stuessy also praised Professor Stuckey for his dedication, thoughtfulness and genuine care for the future development of the Herbarium. Chairperson Boerner pointed out that Dr. Stuckey, who had worked so long and so hard for the students, cared enough to make this kind of gift to help future stu-

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Network Opens Doors

Continued from page B

State, Bowling Green State, Case Western Reserve and the Medical College of Ohio are now on par with schools like Harvard, MIT and Stanford in the network capabilities available to their researchers. Most states provide such capability to only the largest schools in the state. Ohio now leads in providing high speed networking as well as supercomputing to its research universities.

The improved speed means more opportunities are locally available to Ohio researchers. Instead of going to a national laboratory like Los Alamos one month a year to do research, scientists can research twelve months a year by bringing the information to their own university over the network. Ohio scientists working in collaboration with researchers in other parts of the country now have the ability to interact in real-time on the projects from their offices in Ohio. Scientists can work with colleagues at MIT and Stanford without having to live in Boston or Silicon Valley.

The faster network also means better use of remote computing facilities like the Ohio Supercomputer Center. Users across the state who previously experienced long waits for results now find they can work interactively with the supercomputer as their programs are running. They can also use the Center's visualization and graphics capabilities at workstations in their own offices. The quickness of the network brings an entire computing center to the desktop of a researcher.

The Ohio Supercomputer Center (OSC) is a state-funded, nonprofit facility that provides CRAY Y-MP supercomputer services to academic and industrial scientists and engineers.

Students Selected for Summer Energy Research and Education Programs

While some students worked at fast food restaurants, painted houses or simply basked in the sun, this past summer seven outstanding Ohio high school students spent ten days at national energy research laboratories to learn the latest information on supercomputers, chemistry, materials science including superconductivity, high energy physics, genetics, and environmental sciences.

The summer program is sponsored by the U.S. Deparment of Energy in cooperation with Ohio Governor George B. Voinovich and The Ohio Academy of Science. The Academy selected the students on behalf of the Governor.

Selection criteria included (1) strength of the application letter, (2) letters of support, (3) high school grades, (4) scholastic and extra curricular acitivities and, (5) evidence of research ability.

This program encourages students to pursue careers in leading edge technologies important to Ohio's economic development. Selected students and their alternates for the summer of 1991 were: Kerry Stephen Ott, Tri-County North HS, Lewisburg, alt. Gwen Snorteland, Lakewood HS, Lakewood; Joe Forsythe, Benjamin Logan HS, Bellefontaine, alt. Renee L. Wildermuth, Jackson Center HS, Jackson Center; Joseph G. Hurst, The King's Academy, North Olmsted, alt. Glenn Allen Pacer, Perkins High School, Sandusky; Ilea A. Mathis, Westerville North HS, Westerville, alt. Rosanna Wong, Upper Arlington HS, Upper Arlington; Matt Elwood, Carroll HS, Dayton, alt. William A. Hope, Faith Christian HS, Greenville; Tera A. Stockdale, River Valley HS, Marion, alt. Heather R. Kegg, Benjamin Logan HS, Bellefontaine; Lisa L. Willett, Triway HS, Wooster, alt. Rebecca A. Spore, Ashland HS, Ashland.

Endowment Fund For Herbarium

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dents. Dean Floyd referred to Dr. Stuckey's qualities of sensitivity, dedication, commitment, loyalty and generosity. He wished Dr. Stuckey "good luck" in his second career.

The establishment of the endowment fund for the University Herbarium not only marks the occasion of Dr. Stuckey's retirement from teaching, but also commemorates the 100th anniversary of the Herbarium. The fund creates a foundation for its future as a part of the Biological Sciences' new Museum of Biological Diversity.

Celebrating 100 years of continued operation, The Ohio State University Herbarium was founded in 1891 by the University's first professor of Botany, William A. Kellerman, Ph.D. Initially the Herbarium was housed in Botanical Hall (site of the present-day Faculty Club Building) and moved in 1914 to the Botany and Zoology (B&Z Building), 1735 Neil Avenue. Beginning its second century of operation, the Herbarium will be relocated in the former food facility building (1315 Kinnear Road) now being renovated to house all of the biological collections in the University. Professor Stuckey served as curator from 1967 to 1976.

Americans Favor Environmental Protection Over Economic Recovery

Americans believe that environmental protection is more important than economic growth and are willing to sacrifice jobs in their community, pay more for environmentally friendly products and see violators jailed for non-compliance, according to a new national opinion study.

Environment U.S.A. '91 is a joint project of Golin/Harris Communications, a leading U.S. public relations agency, and the Angus Reid Group, Canada's premier market research organization. Data collection was conducted in April and May via telephone interviews with 2,000 American adults across the country.

"The shocking part of this report," said the polling company's founder Angus Reid, "is that Americans are saying they won't 'sell out' the environment for the sake of a stronger economy, even in the face of the recent recession."

Three-quarters (74%) of Americans believe the government should keep environmental protection a priority even if it means slower economic growth, while only 14% disagreed. A majority (54%) also wants government to take "serious action" against polluters, even if it means closing down some factories and losing jobs in their communities.

Willing To Financially Support Their Beliefs

Rich Jernstedt, president of Golin/Harris, expressed surprise that the report shows Americans seem eager to "put their money where their mouth is."

"Survey respondents said they would be willing to add a quarter to the cost of a gallon of gas (59%) and pay 10% more for environmentally 'green' grocery products (76%). A majority (55%) even said they would pay 50% more for garbage collection to insure safe long-term disposal," Jernstedt said.

"Not only are Americans environmentally-aware and concerned, they are also willing to pay significantly more for products and services that benefit the environment. There is strong environmental commitment in these statements and one that may lead government and industry to re-evaluate taxing strategies in the 1990s," he noted.

Public Would Jail Known Polluters

The study also indicated that the public would be willing to give tax incentives to businesses (76%) to encourage more environmentally-responsible behavior. Conversely, two in three Americans surveyed (64%) said they support mandatory jail sentences for decision makers in any organization who fail to comply with environmental regulations if warned in advance. Nearly one-half (45%) would be strongly in favor of jailing CEOs of polluting companies.

The study, a cousin to a three-year-long Canadian poll, also found "virtually identical" opinions between Americans and Canadians. "This is an indication of how significant the support is for environmental protection at the grass roots level," Reid said. "This sets an intriguing stage for 1992 elections."

With the national sample of 2,000 adults, the results have a 95% certainty of being within 2.25 percentage points of the entire American population.

Environment U.S.A. '91 is available to U.S. business, government and consumer groups to provide them with the latest opinions of Americans on environmental issues. The report will feature a psychographic segmentation, which groups Americans by their environmental beliefs. The complete 200-page report was published this past July.

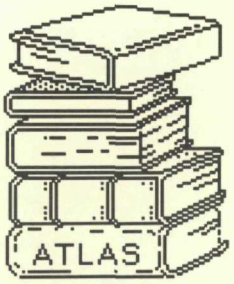
Notice of Opportunity

The latest DOE Five-Year Plan for cleaning up contaminated production facilities shows estimates of as much as $3.6 billion for work at three Ohio plants. Both private industry and the graduate-level research capabilities of the state's universities will be needed to play a major role in the clean-up and its accompanying R&D activities.

In this context, the Institute of Advanced Manufacturing Sciences (IAMS) is building a data base of companies, universities, research facilities and individuals who have an interest in, or a connection with, the cleanups.

If you wish to be included in this data base, send your company name, address, phone, fax, contact person, title, area of specialty, and prior experience in this field to: IAMS, 1111 Edison Drive, Cincinnati, OH, 45216; or by fax to: (513) 948-2109.

Books and Digital Data



Sourcebook for Science, Mathematics, and Technology. Betty J. Calinger and Barbara Walthall (Eds.). This volume provides readers with information about the people, programs and organizations involved in the nation's current efforts to improve the quality of teaching and learning of science, mathematics and technology. A resources section lists programs and activities for students, teachers and parents, as well as programs targeting underrepresented groups. Useful to everyone working on specific programs to strengthen science, mathematics and technology education. To order, contact: AAAS Books, P.O. Box 753, Waldorf, D 20604.

Decade of North American Geology Digital Data. Magnetic tapes are provided at 6250 bpi in ASCII format. All diskettes are IBM®-PC compatible, high density, 5.25". Other formats may be requested. For more information call (303) 497-6419 or write to:
National Geophysical Data Center
NOAA, E/GC1, Dept. 858
325 Broadway
Boulder, CO 80303-3328.

Ohio Space Scientists

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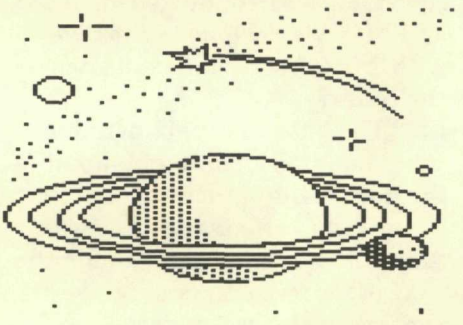
to recognize these students for their continued hard work," Joseph T. Gorman, Chairman and Chief Executive Officer of TRW Inc. said. "For companies such as TRW, a well educated, technically oriented work force is a must. We cannot, however, just expect those workers to be there; we have to be proactive and put programs into place that encourage young people to look at science and engineering as career choices. We see Ohio's Space Scientists of Tomorrow as a first step in recognizing the potential that exists right here in our state."

"In selecting these students our committee placed a major emphasis on demonstrated leadership outside the classroom and on the ability of the students to communicate effectively," said Lynn Edward Elfner, Executive Officer of The Ohio Academy of Science.

The 1990-91 Space Scientists of Tomorrow are: James T. Pyke, Akron Firestone HS, Akron; Jaime M. Rittner, Alliance HS, Alliance; Mark J. Torma, Marlington HS, Alliance; Michele R. Etling, Teays Valley HS, Ashville; Stephanie L. Wagner, Hopewell-Loudon HS, Bascom; Zachary J. Coughlin, Amelia HS, Batavia; David R. Woeste, Clermont Northeastern HS, Batavia; Shannon L. Phipps, Cedarville HS, Cedarville; April R. Dock, Princeton HS, Cincinnati; Amy E. Flamm, Greenhills HS, Cincinnati; Joshua D. Knepfle, Elder HS, Cincinnati; Kevin J. Yang, Sycamore HS, Cincinnati; Jean E. Estes, Tree of Life Christian School, Columbus; Tabeth A. McCullough, Covington HS, Covington; Robert L. Swallow, Covington HS, Covington; Neala Rafizadeh, Oakwood HS, Dayton; Oulanje K. Regan, Rutherford B. Hayes HS, Delaware; Kerry A. Nixon, Dover HS, Dover; Michael D. Curry, Edon HS, Edon; Jessica L. Bird, Gorham-Fayette HS, Fayette; Scott R. Teresi, James A. Garfield HS, Garrettsville; Christina A. Peterson, Kettering Fairmont HS, Kettering; Elizabeth J. Meyers, Leipsic HS, Leipsic; Kevin R. Gross, Loveland Hurst HS, Loveland; Hannah C. Chismar, Mansfield HS, Mansfield; Lily Horng, Mayfield HS, Mayfield Village; Scott M. Yano, Evergreen HS, Metamora; Jennifer D. Schoeppner, Minerva HS, Minerva; Kari M. Greff, Newark Catholic HS, Newark; Benjamin Neuman, Niles McKinley HS, Niles; Marcy R. Miklovic, North Baltimore HS, North Baltimore; Matthew J. Paschke, Hoover HS, North Canton; Matthew P. Bockrath, Ottawa-Glandorf HS, Ottawa; Shelly A.



Ellerbrock, Ottawa-Glandorf HS, Ottawa; Michael R. Froehlich, Perry HS, Perry; Paula A. Dozer, Philo HS, Philo; Erica L. Gantner, Reynoldsburg HS, Reynoldsburg; Bradley J. Mendelson, Revere HS, Richfield; Stacy E. Sneeringer, Revere HS, Richfield; Chadwick R. Taylor, Sandusky HS, Sandusky; Leslie S. Kim, South Point HS, South Point; Steve C. Lin, Strongsville HS, Strongsville; Alison J. Razinsky, Southview HS, Sylvania; Steve C. Schenk, St. John HS, Toledo; Rosanna W. Wong, Upper Arlington HS, Upper Arlington; Laurie J. Punch, Wellsville HS, Wellsville; Jennifer L. Dorosz, Lakota HS, West Chester; Uday Varadarajan, Lakota HS, West Chester; Nathan H. Ruggles, West Liberty-Salem HS, West Liberty; Matthew P. Gillingham, Wyoming HS, Wyoming.

Proposals For HHMI Funds

Thanks to the Howard Hughes Medical Institute (HHMI) and their grant program to liberal arts colleges, Ohio Wesleyan University (OWU) is sponsoring biomedical awards at 16 Ohio Academy of Science districts and at the state competition as part of a $700,000 grant recently awarded to Ohio Wesleyan University.

The current plans are for each of the 16 districts to offer special awards in biomedical sciences (details will be available later as to what type of specific projects qualify for "biomedical") with individualized certificates to be provided to each award winner. In addition, the following prize funds will be provided at the district level:

Grades 10-12	Grades 7-9
1st $125	1st $125
2nd $75	2nd $75
3rd $50	3rd $50

At State Science Day, each of the six winners will be awarded a plaque and the following prize funds:

Grades10-12	Grades 7-9
1st $500	1st $500
2nd $300	2nd $300
3rd $200	3rd $200

The program starts in 1991-92, and sufficient funds are available from HHMI to support this program for *5 years* – a total funding of approximately $45,000. It is proposed that the director and staff of State Science Day will work with OWU on making all arrangements for the state level awards (including obtaining judges) and associated publicity. It is further proposed that the Ohio Academy of Science office provide statewide publicity about the availability of these awards in their various publications throughout the five year period.

It is also proposed that Jim Freed (a HHMI Committee member at OWU) work with district directors, or their designates, on the mechanics of the district level awards. In order to efficiently carry out this program, it is proposed that district directors or their designates provide the following:

- Inclusion of the awards and details of judging in any advance announcements of special awards made to schools in their districts.
- Obtain the necessary judges and instruct them in their responsibilities.
- Provide a calligrapher who will add the names to the six certificates.
- In an appropriate awards ceremony, provide the certificates, a letter/form, and a return envelope to the six winners which they complete and return to Freed so that accurate records of the recipients and their mailing addresses can be maintained.

In return, Freed will provide the following to the district directors:

- Certificate covers (envelopes) and six certificates inscribed with all the information and signatures (except the district director). Each certificate is ready for the district calligrapher to inscribe the winner's name.
- Letter of congratulations from Ohio Wesleyan, and a form to be completed and returned by the student to OWU in an envelope provided, so that a check for the prize award can be sent directly to the student.

If readers foresee any problems with this proposed award concept or with the procedures, please write a letter to that effect immediately. Please send the letter to The Ohio Academy of Science. The above procedures, or slight modifications, which will be announced, will be followed for the first year (1991-92). Evaluations will be completed at the end of the first year to determine if changes are necessary. Proposed advance publicity by The Ohio Academy of Science will include announcements of the availability of these awards to all 16 districts, thus it is imperative that each district agree on award availability for that district.

OJS UPDATES REVIEWER CHECK SHEET

For a number of years the *Journal* has provided peer reviewers with a check sheet to complete and return along with an evaluated manuscript. Although reviewers are encouraged to make additional comments directly on the manuscript or to provide added pages of notes, those with insufficient time or experience to do so often return the check sheet only. Frankly, the check sheet currently in use provides little information to author(s) or editor when it is the only response to a manuscript. Fortunately, this spring we came across an article in the journal *BioScience* authored by Dr. Barbara J. Kuyper of the University of Tennessee ("Bringing up scientists in the art of critiquing research." *BioScience*. 41: 248-250, 1991.), containing a checklist which appeared to hold potential for adaptation to *OJS* use. We have obtained the permission of both the original author and the editor of *BioScience* to use a modification of this checklist as our peer review check sheet, and its use will begin January 1992.

In the process of circulating the early drafts of the check sheet to members of the *OJS* Editorial Board for suggestions and approval, it was noted by Tom Schmidlin that this sheet is complete enough to be used to great advantage by potential authors, along with the instructions to authors, during the preparation of a manuscript for publication in the *OJS* or elsewhere. Thus, we are providing a copy of the "new, improved" peer review check sheet on the following page. We also recommend that Dr. Kuyper's original article be read.

(Over)

REVISED REVIEW SHEET OF *THE OHIO JOURNAL OF SCIENCE* [1]

A. Abstract

1. Carefully read the abstract.
    a. Does it contain a statement of purpose?
    b. Does it adequately outline methodology?
    c. Does it include major findings?

Comments:

B. Introduction

2. Consider the title.
    a. Is it suitable for computer indexing?
    b. Does it state the subject of the paper?
3. Read the statement of purpose.
    a. Does it clearly state an objective?
    b. Does it match that in the abstract?
4. Check the sequence of introductory statements.
    a. Is all introductory material necessary?
    b. Do statements direct one to the purpose?

Comments:

C. Materials and Methods

5. Review methods relative to study objective.
    a. Are methods valid for this problem?
6. Read the methods for information content.
    a. Will details allow study duplication?
    b. Does all information belong in methods?
    c. Will subdivision of methods clarify?
7. Check the methods for fatal flaws.
    a. Is sample adequate for the objective?
    b. Is the experimental design appropriate?
    c. Are statistical analyses appropriate?

Comments:

D. Results

8. Evaluate the data presented in tables and figures.
    a. Are titles/legends adequately detailed?
    b. Are column headings accurate?
    c. Can data be easily compared/understood?
9. Compare text of results with illustrations.
    a. Does text complement, not repeat, data?
    b. Are there any contradictions?
    c. Are all illustrations discussed in text?
10. Review the results in view of the objective.
    a. Do the results support the objective?
    b. Is calculation/presentation correct?

Comments:

E. Discussion

11. Check the interpretation against the results.
    a. Does the discussion only repeat results?
    b. Is the interpretation of data logical?
    c. Have shortcomings been addressed?
12. Compare interpretation to related studies.
    a. Is evaluation consistent with others?
    b. If not, is explanation logical?
13. Consider the research citations.
    a. Have all key studies been cited?
    b. Have unnecessary studies been cited?
14. Reflect on directions for this research.
    a. Has further work been suggested?
    b. Are the suggestions realistic?

Comments:

F. Literature Cited

15. Compare text citations to those on the list.
    a. Are all references cited on the list?
    b. Are all listed references cited?
    c. Is form appropriate to *OJS*?

Comments:

G. Overview

16. Reread the article for structure.
    a. Is the material well-organized?
    b. Are sections subdivided logically?
17. Evaluate the author's style.
    a. Do purpose and results flow logically?
    b. Is information presented clearly?
    c. Is the paper concise?

Comments:

[1]Adapted from B. J. Kuyper, "Bringing up scientists in the art of critiquing research," *BioScience* 41: 248-250. 9/91